

WHAT IS CLAIMED IS:

1. A method of designating a reverse common channel to be dedicated in a base station of a CDMA communication system, comprising the steps of:

designating a reverse common channel on which to receive a response message to be dedicated when a message requiring the response message is generated;

generating designated channel indicating parameters including a reverse common channel designation indicator and an action time;

transmitting the generated message together with the designated channel indicating parameters to a mobile station; and

receiving the response message from the mobile station on the designated reverse common channel at the action time.

2. The method of claim 1, wherein the designated channel indicating parameters further include the address of a common power control channel for use in controlling the transmission power of the reverse common channel and the data rate of the reverse common channel.

3. The method of claim 2, wherein the mobile station uses an ESN (Electronic Serial Number) mask of the mobile station to generate a spreading code for channel designation.

4. The method of claim 1, wherein the message transmitted on a forward common channel is one of the following messages requiring response messages: Status Request Message, TMSI Assignment Message, General Page Message, SSD Update Message, Authentication Challenge Message, Base Station Challenge Confirmation Order, Extended Release Message, Service Redirection Message, Data Burst Message,

Service Release Message, and Order Message.

5. A method of [releasing a reverse common channel] from a designated mode in a base station of a CDMA communication system, comprising the steps of:

5     reserving a predetermined reverse common channel as a designated channel;  
       setting a reservation time when a message is generated that requires a response message on the reverse common channel;

      generating designated channel indicating parameters including a reverse common channel designation indicator and an action time;

10     transmitting the generated message together with the designated channel indicating parameters to a mobile station;

      checking whether the response message has been received on the designated reverse common channel [within the reservation time]; and ✕

15     releasing the reverse common channel from the designated mode if the response message has been received within the reservation time or the response message has not been received until the [reservation time] expires.

20     6. The method of claim 5, wherein the designated channel indicating parameters further include the address of a common power control channel for use in controlling the transmission power of the reverse common channel and the data rate of the reverse common channel.

25     7. The method of claim 6, wherein the mobile station uses an ESN (Electronic Serial Number) mask of the mobile station to generate a spreading code for channel designation.

8. A method of designating a reverse common channel to be dedicated in a mobile station of a CDMA communication system, comprising the steps of:

receiving a message on a forward common channel;  
analyzing the received forward common channel message;  
setting the reverse common channel to a designated mode if the received  
message has designated channel indicating parameters that includes a reverse common  
5 channel designation indicator and an action time for designation;  
generating a response message for the received message;  
designating the reverse common channel to be dedicated by [assigning a  
designated channel spreading code to the reverse common channel]; and  
transmitting the response message on the designated reverse common channel at  
the action time.

9. The method of claim 8, wherein the designated channel indicating  
parameters further include an address of a common power control channel for use in  
controlling transmission power of the reverse common channel and data rate of the  
reverse common channel, a transmission rate of the response message is controlled based  
15 on the common power control channel, and the response message is transmitted on the  
set data rate.

10. The method of claim 9, wherein the spreading code is generated using  
20 an ESN (Electronic Serial Number) mask of the mobile station.

11. A method of designating a channel to be dedicated between a base  
station and a mobile station in a CDMA communication system, comprising the steps of:  
generating designated channel indicating parameters including a common  
25 channel designation indicator, an address of a common power control channel,  
transmission rate, and action time;  
transmitting a message together with the designated channel indicating  
parameters to a mobile station by a base station; and

receiving the message with the designated channel indicating parameters and transmitting a response message for the received message to the base station on a designated channel indicated by the designated channel indicator with transmission power set by the common power control channel [at the transmission rate] at the action time by the mobile station.

12. An apparatus for designating a reverse common channel in a base station of a CDMA communication system, comprising:

a message generator for generating designated channel indicating parameters including a reverse common channel designation indicator and action time for designation and for generating a forward common channel message with the designated channel indicating parameters;

a forward common channel transmitter for transmitting the forward common channel message to a mobile station; and

a reverse [common channel receiver] to be reserved when the forward common channel message is transmitted and for receiving a response message for the forward common channel message on a reverse common channel that is designated to be dedicated for a reservation time through spreading with a designated channel spreading code.

13. An apparatus for designating a reverse common channel in a mobile station of a CDMA communication system, comprising:

a forward common channel receiver for receiving a message on a forward common channel;

a [message analyzer] for analyzing the received forward common channel message, for setting the reverse common channel to a designated mode if the received message has designated channel indicating parameters that includes a reverse common channel designation indicator and an action time for designation, and for generating a

response message for the received message; and

a reverse common channel transmitter for designating the reverse common channel to be dedicated in the designated mode and for transmitting the response message on the designated reverse common channel at the action time.

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*P13, Ques 20+*  
 14. A method of designating a reverse common channel in a base station, comprising the steps of:

reserving an available reverse common channel to be designated<sup>112</sup> in a physical channel of the base station in response to a designated mode request from a signaling layer of the base station;

constructing, by the signaling layer, a message by including designated channel indicating parameters in transmission data, said designated channel indicating parameters being a designated channel indicator and an action time of designation; and

transmitting the constructed message on a forward common channel through the physical layer.

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15. A method of designating a reverse common channel in a mobile station, comprising the steps of:

transmitting, by a physical layer of the mobile station, a message including dedicated channel indicating parameters to a signaling layer of the mobile station, said message being received on a forward common channel, said dedicated channel indicating parameters being a designated channel indicator and an action time of designation; *frnd*

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generating, by the signaling layer, a response message, said response message *resp* having designation indicating information;

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requesting, by the signaling layer, the physical layer to designate a spreading code for common channel designation and an action time by the signaling layer;

spreading, by the physical layer, the response message with the designated

spreading code at the designated action time; and

transmitting, by the physical layer, the response message on a designated reverse common channel.

5           16.     A method of designating a reverse common channel in a base station, comprising the steps of:

reserving an available reverse common channel [to be designated, in a physical channel of the base station], in response to a designated mode request from a signaling layer of the base station;

providing, by the signaling layer, transmission data and designated channel indicating parameters, said designated channel indicating parameters including a designated channel indicator and an [action time of designation];

constructing, by a [link access control layer] of the base station, a message out of the transmission data and the designated channel indicating parameters; and

15           transmitting the constructed message on a forward common channel through the physical layer.

17.     A method of designating a reverse common channel in a mobile station, comprising the steps of:

20           transmitting, by a physical layer of the mobile station, a message including dedicated channel indicating parameters to a [link access control layer] of the mobile station, said message being received on a forward common channel, said dedicated channel indicating parameters including a designated channel indicator and an action time of designation;

25           adding, by the [link access control layer], designation indicating information to the received message;

transmitting, by the link access control layer, the received message with the added designation indicating information [to a signaling layer] of the mobile station;

generating, by the signaling layer, a response message;  
 [adding, by the signaling layer, designation indicating information to the  
 response message;]  
 transmitting, by the signaling layer, the resulting response message to the link  
 5 access control layer;  
 requesting, by the link access control layer, the physical layer to designate a  
 [spreading code] for common channel designation and an action time;  
 spreading, by the physical layer, the response message with the designated  
 spreading code at the designated action time; and  
 transmitting, by the physical layer, the spread response message on a designated  
 reverse common channel.

18. A method of designating a reverse common channel in a base station,  
 comprising the steps of:

15 reserving an available reverse common channel to be designated in a physical  
 channel of the base station in response to a [designated mode request from a signaling  
 layer] of the base station;

providing, by the signaling layer, transmission data and designated channel  
 indicating parameters, said designated channel indicating parameters including a  
 20 [designated channel indicator] and an [action time of designation;]

constructing, by a Medium Access Control (MAC) layer of the base station, a  
 message out of the transmission data and the designated channel indicating parameters;  
 and

25 transmitting the constructed message on a forward common channel by the  
 physical layer.

19. A method of designating a reverse common channel in a mobile station,  
 comprising the steps of:

transmitting, by a physical layer of the mobile station, a message including dedicated channel indicating parameters to a Medium Access Control (MAC) layer of the mobile station, said message being received on a forward common channel, said dedicated channel indicating parameters including a designated channel indicator and an action time of designation;

adding, by the MAC layer, designation indicating information to the received message;

transmitting, by the MAC layer, the received message with the added designation indicating information to a signaling layer of the mobile station;

generating, by the signaling layer, a response message;

adding, by the signaling layer, designation indicating information to the response message;

transmitting, by the signaling layer, the resulting response message to the MAC layer;

requesting, by the MAC layer, the physical layer to designate a spreading code for common channel designation and an action time;

spreading, by the physical layer, the response message with the designated spreading code at the designated action time; and

transmitting, by the physical layer, the spread response message on a designated reverse common channel.